

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A substrate processing system comprising:

- a gas supply source for supplying a first process gas containing a first reactive substance;
- a reservoir tank connected to said gas supply source for reserving the first process gas;
- a reactor connected to said reservoir tank for exposing a substrate placed therein to the first process gas;
- a first circulation pipe for introducing the first process gas from said reactor to said reservoir tank;
- a second circulation pipe for introducing at least part of the first process gas from said reservoir tank to said reactor; and
- a flow regulating valve disposed in said second circulation pipe;
- a pressure pump fluidly connected between said reactor and said reservoir tank, said pressure pump being a single unit operative to generate a pressure difference between said reactor and said reservoir tank to cause the first process gas to flow from said reactor to said reservoir tank without an intervening pump;
- a pressure pump upstream valve disposed between said reactor and said pressure pump;
- a pressure pump downstream valve disposed between said pressure pump and said reservoir tank;
- a turbo-molecular pump connected to said reactor;
- a turbo-molecular pump upstream valve disposed between said reactor and said turbo-molecular pump;
- a dry pump disposed downstream of said turbo-molecular pump;

a second gas supply source for supplying a second process gas containing a second reactive substance, which is different from the first reactive substance, to said reactor; and

a bypass pipe connecting said second gas supply source to said reactor such that the second process gas can be supplied to said reactor without passing through said reservoir tank.

Claims 2-7. (Cancelled)

8. (Currently Amended) The substrate processing system of claim 1, wherein said pressure pump is fluidly connected between said reactor and said first circulation pipe such that the pressure difference causes the first process gas to flow from said reactor to said reservoir tank through said first circulation pipe.

9. (New) The substrate processing system of claim 1, wherein said pressure pump is fluidly connected to each of said reactor and said first circulation pipe such that operation of said pressure pump causes the first process gas to flow from said reactor to said reserve tank through said first circulation pipe and causes the first process gas to flow from said reservoir tank to said reactor through said second circulation pipe.

10. (New) A substrate processing system comprising:

a gas supply source for supplying a first process gas containing a first reactive substance;
a reservoir tank connected to said gas supply source for reserving the first process gas;
a reactor connected to said reservoir tank for exposing a substrate placed therein to the first process gas;

a first circulation pipe for introducing the first process gas from said reactor to said reservoir tank;

a second circulation pipe for introducing at least part of the first process gas from said reservoir tank to said reactor;

a flow regulating valve disposed in said second circulation pipe;

a pressure pump disposed in said first circulation pipe and fluidly connected between said reactor and said reservoir tank, said pressure pump being a single unit operative to generate a pressure difference between said reactor and said reservoir tank to cause the first process gas to flow from said reactor to said reservoir tank without an intervening pump;

a pressure pump upstream valve disposed between said reactor and said pressure pump;

a pressure pump downstream valve disposed in said first circulation pipe and between said pressure pump and said reservoir tank such that said pressure pump downstream valve is downstream of said pressure pump;

a turbo-molecular pump connected to said reactor;

a turbo-molecular pump upstream valve disposed between said reactor and said turbo-molecular pump;

a dry pump disposed downstream of said turbo-molecular pump;

a second gas supply source for supplying a second process gas containing a second reactive substance, which is different from the first reactive substance, to said reactor; and

a bypass pipe connecting said second gas supply source to said reactor such that the second process gas can be supplied to said reactor without passing through said reservoir tank.

11. (New) The substrate processing system of claim 10, wherein said pressure pump is disposed in said first circulation pipe and fluidly connected between said reactor and said first circulation pipe such that the pressure difference causes the first process gas to flow from said reactor to said reservoir tank through said first circulation pipe while causing the first process gas to flow from said reservoir tank to said reactor through said second circulation pipe.